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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/604,891

08/25/2003

Takuji TANAKA

031032

1890

38834

7590

03/30/2005

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP  
1250 CONNECTICUT AVENUE, NW  
SUITE 700  
WASHINGTON, DC 20036

EXAMINER

LEE, EUGENE

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/604,891	Applicant(s) TANAKA, TAKUJI	
	Examiner Eugene Lee	Art Unit 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4, and 6 thru 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee 6,251,737 B1. Lee discloses (see, for example, FIG. 1H) a MOS transistor (semiconductor device) including a gate having a gate oxide layer (gate insulation film) 114 and a gate polysilicon structure (gate) 116, source/drain region (source, and a drain) 118, said MOSFET comprising a silicide layer (sidewall film) 132, and spacers (low permittivity region) 136. The gate oxide layer and the lower end of the gate polysilicon layer have a same width as each other.

Regarding claims 2, 4, 7, and 8, see, for example, column 5, lines 59-66, wherein Lee discloses the spacers containing just air.

Regarding claim 6, see, for example, FIG. 1H wherein Lee discloses the notched shape underneath the arms 204.

3. Claims 1 thru 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Wu 6,180,988 B1. Wu discloses (see, for example, FIG. 8) a MOSFET (semiconductor device) including a gate having a gate oxide (gate insulation film) 6 and a gate (gate electrode) 8, active regions

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(source, and a drain) 16, said MOSFET comprising spacers/oxide (sidewall film) 18/26, and air gaps (low permittivity region) 22. The gate oxide and the lower end of the gate have a same width as each other.

Regarding claim 3, see, for example, FIG. 8 wherein Wu discloses the spacers (first film) 18, and an oxide (second film) 26.

Regarding claim 5, see, for example, FIG. 8 wherein Wu discloses the spacers (first film) 18, and an oxide (third film) 26.

4. Claims 1 thru 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Scholer et al. 6,433,371 B1. Scholer discloses (see, for example, FIG. 1T) a transistor (semiconductor device) including a gate having a gate oxide layer (gate insulation film) 120 and a polysilicon gate (gate electrode) 124, deep S/D junctions (source, and a drain) 137/138, said transistor comprising gate nitride layer/secondary gate spacer (sidewall film) 114/132, and barrier oxide layer (low permittivity region) 104. The gate oxide layer and the lower end of the polysilicon gate have a same width as each other.

Regarding claim 2, see, for example, FIG. 1T wherein Scholer discloses a barrier oxide 104, which is made of a lower permittivity material as compared to said gate nitride layer/secondary gate spacer (sidewall film) 114/132. In column 10, lines 39-42, Scholer discloses the second gate spacer may be formed of nitride.

Regarding claim 3, see, for example, FIG. 1T wherein Scholer discloses the gate nitride layer (first film) 114, and a secondary gate spacer (second film) 132.

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*Response to Arguments*

5. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

**INFORMATION ON HOW TO CONTACT THE USPTO**

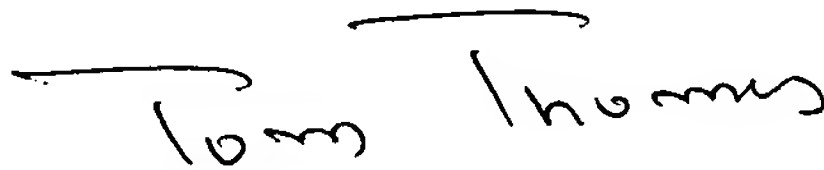
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 571-272-1733. The examiner can normally be reached on M-F 8-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eugene Lee  
March 24, 2005

  
TOM THOMAS  
SUPERVISORY PATENT EXAMINER